## DRAFT Ecological risk assessment conceptual site model for the Portland Harbor Superfund Site For internal discussion. Do not distribute. Ecological Receptors s/Reptil Invertebrates Aquatic Plants Pacific Lamprey Adult Primary Smallmout Bass Secondary Tertiary Exposure Exposure Adult Chino Northern Pacific Lampre Frogs, Release Release Release Crayfish Source Source Source Medium Route Salmon Ammocoete • Х Х Х • x<sup>8</sup> • • Х Х х Х х Х Х Х Х х Х Х x x х х x x Х Х Х Х • • • • • • • . . . . . • х • • • ¥ х × i i i x<sup>7</sup> x<sup>7</sup> • x x • i • • • Х Х i • . . . . x • • • • • • • • • Complete and Significant omplete and Significance Unknown Legend tiparian Soil = The bank area between the Mean High Water Mark (MHWM) and the Ordinary High Water Mark (OHWM). In some places , this area may extend abordinary High Water Mark. he following criteria should be met before the pathway of a contaminant should be considered complete and significant: pathway should be classified as complete and significance unknown if it meets the following criteria: = Complete and significant pathway The pathway is theoretically or potentially complete: pathway can be supported by the scientific literature. Both the receptor and the exposure media are assumed to co-occur in the Portland Heator, but it is unknown whether or not the receptor uses the hast as disclinely except, but no exposed to containstant at effect levels or the support of the pathway of the The pathway is theoretically or potentially complete; pathway can be supported by the scientific literature The pathway in becentically or polaritally complete, pathway can be supported by the scientific literature. The pathway is becent because the exposure mode are even, based on site special clearmants or, or an associately be assumed to co-occur in Portland Hantor. The pathway has been shown to be a primary routed or specials for any life stage of a receptor or surrogate or opartion based on liaboratory, field, or site-specific data, and contained commissions can reach effect from sole below by the proposed or other opathway used evaluation. The pathway is theoretically and/or practically not possible or not likely to occur in the are = Complete and significance unknown Seeps = Seeps is water discharging on the bank area aboive the MHWM. It inclues the in -point of small tributaries to the river, groundwater seeping up to the bank area, a small piped discharges running over the bank. evaluated. Both the receptor and the exposure media are known, based on site-specific data, or can reasonably be assumed not to co-occur in Portland Harbor or would not use the area to the extent where exposure would occur. The pathway is not a primary route of exposure for any life stage of a receptor or surrogation organism based on laboratory, field, or site-specific data. = Complete and insignificant pathway Villamette River Surface Water includes fish bearing tributaries and the in -point of year-round, significant flow outfalls. x = Incomplete pathway or example, exposure of fish to dissolved metals via uptake through the gill, and exposure of fish -eating birds to PCBs by consuming contaminated prey. Distance Distance means any fissue that is consumed by the species of interest within the exposure medium, and it includes to only transfer MHW = mean high water For example, while theoretically freshwater fish ingest water when feeding they do not active drink due to the connotic conditions in which they exist. Therefore, exposure to surface water value ingestion would be minor relative to other pathways. Alon, CPB uptake from the water column is probably a complete pathway for pictiverous birds, but compared to the uptake of PCBs in contaminated prey filems, the exposure is not significant. r example, it is unknown how sturgeon use Portland Harbor. While exposure to sediment is likely, data are no aliable to assess quantitatively the extent that this receptor and exposure media co -occur. example, juvenile salmon would not be eating fish. Reptiles - There is likely limited use of the ISA by only a few reptiles (garter snake, painted turtle and pond turtle). We have no surrogate species for reptiles, but protect sensitive life stages of amphibians and birds is considered protective of reptiles. OHW = ordinary high wate r pathways that are classified as complete and significance unknown, additional site -specific data will be juired to determine if they can be reclassified as complete and significant or complete and insignificant. Areas with significant sheen could be a "complete and significant" pathway. Fish exposure to discharging Transition Zone Water will be assessed by focused surface water sampling This is a "complete and signficant" pathway for terrestrial invertebrates. hese receptors will be assessed as potential pathways for contaminant movement through the food web. They will not be assessed as endpoints themselves

A Complete pathway means there is a potential for a contaminant to reach a receptor via the proposed route.